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ABSTRACT

The purpose of this paper is to examine the theories and research concerning social comparison and goal setting processes in education and to discuss implications for educational practice and future research. Social comparison and goal setting are important contextual influences on children's task motivation, self-evaluations of capability, and skillful performance in achievement settings. Both processes provide a performance standard against which children can compare their present performance level. Young children's social comparisons with peers focus on practical concerns, such as similarities and differences, equitable shares of rewards, and securing correct answers. The effects of goals depend upon specificity, proximity, and difficulty level. Proximal goals are especially influential with young children, but will not promote performance if there is no goal commitment. In general, the effects of both processes on motivation, self-evaluation, and skillful performance in achievement settings depends on children's developmental level as well as on process characteristics. Thus, it is important that individuals working with young children view these processes developmentally. Future research should explore the operation of the processes in classrooms to determine how they can be systematically employed to enhance children's task mastery and sense of personal competence. (RH)

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CHILDREN'S SOCIAL COMPARISON AND GOAL SETTING IN ACHIEVEMENT CONTEXTS

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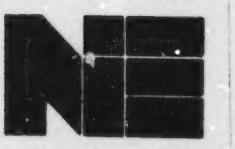

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Social comparison and goal setting are important contextual influences on children's task motivation, self-evaluations, and skillful performance in achievement settings. Because children's use of socially comparative and goal information changes with development, it is important that individuals who work with young children view the social comparison and goal-setting processes from a developmental perspective. The purposes of this discussion are to examine some theoretical ideas and research findings relevant to social comparison and goal setting, and to discuss the implications of this evidence for educational practice and future research.

Social comparison refers to the process of comparing oneself with others, whereas goal setting involves establishing a standard or objective to serve as the aim of one's actions. Social comparison and goal setting can enhance task motivation. These motivational effects are important because instructional procedures alone cannot fully account for children's diverse achievement patterns (Schunk, in press-b). Social comparison and goal setting also can convey to children that they are capable of performing well. As children then work at a task and observe their progress, these self-evaluations of capabilities are substantiated and help to sustain motivation. Collectively, higher levels of motivation and capability self-evaluations promote skillful performance, which in turn can serve as the basis for further social comparison and goal setting.

At the same time, different goals or types of social comparison will not motivate children equally well or convey the same information about capabilities. In short, how the social comparison and goal-setting processes affect motivation, self-evaluations, and skillful performance in achievement settings depends on children's developmental level as well as on the characteristics of these processes.

SOCIAL COMPARISON

In everyday life, social comparison is an important source for learning about the appropriateness of many behaviors (Masters, 1971; Veroff, 1969) because absolute behavioral standards often are ambiguous or nonexistent. In such cases, acceptability of behavior is relative to what is practiced generally. For example, children who converse too loudly with one another in the school library are apt to be told by the teacher to work quietly. To convey acceptable behavior to the children, the teacher could point out other children in the library who are talking quietly or whispering.

The social comparison process also can help individuals learn how capable they are at a task. In many human endeavors, one's capabilities are defined relative to the accomplishments of others. Festinger (1954) has discussed this role of social comparison as follows: "To the extent that objective, nonsocial means are not available, people evaluate their opinions and abilities by comparison respectively with the opinions and abilities of others" (p. 118). Thus, a child who wins the school spelling bee is likely to feel quite competent in spelling. In this example, though, the child's spelling excellence is relative to the performances of other children in the school.

Although the present review will focus primarily on young children (i.e., elementary age), the social comparison process is hypothesized to operate across the lifespan. Readers interested in social comparison among other age groups should consult Suls and Sanders (1982) for an excellent review.

Development of Social Comparison

The social comparison process is employed regularly by adults in forming self-evaluations of capabilities (Suls & Miller, 1977), but how

children utilize social comparative information for self-evaluation purposes is less well understood. Developmental evidence suggests that the ability to use comparative information effectively depends on higher levels of cognitive development and experience in making comparative evaluations (Veroff, 1969). One question that arises concerns the age at which the ability to compare oneself with others develops. Veroff (1969) contends that Festinger's (1954) hypothesis is not applicable to children younger than 5 or 6. Such children are characterized by what Piaget termed centration, or the tendency not to relate two or more elements in thought, and egocentrism, which refers to the "self" dominating one's cognitive focus and judgments (Flavell, 1963; Higgins, 1981). The presence of these cognitive characteristics does not mean that very young children cannot evaluate themselves relative to others, but rather suggests that they do not automatically do so. Children show increasing interest in comparative information in the early elementary school years and by the fourth grade utilize such information to help form self-evaluations of performance capabilities (Ruble, Boggiano, Feldman, & Loebl, 1980; Ruble, Feldman, & Boggiano, 1976). Other research shows that by the fourth grade children's performances on both motor and learning tasks are influenced by the performances of peers, but that the behaviors of younger children are affected more by direct adult social evaluation, such as praise (e.g., "You're good at this") and criticism ("You could do better") (Spear & Armstrong, 1978).

Recent research suggests that although very young children engage in social comparison, the meaning and function of comparative information change with development and especially as a result of entering school. Preschool children actively compare at an overt physical level; for

example, they frequently compare the rewards they receive with those of others (Masters, 1971; Ruble et al., 1980). Mosatche and Bragonier (1981) found that preschoolers' social comparisons with peers primarily involved instances of (a) establishing how one was similar to and different from others ("I'm 4½, you're 4; we both had a birthday"), and (b) competition that seemed to be based on a need or desire to be better than others but that did not involve self-evaluation ("I'm the general; that's higher than the captain"). Much less frequently, children engaged in comparative behaviors for the purpose of evaluating their own qualifications ("I can do it, too").

Ruble and her colleagues (Feldman & Ruble, 1977; Ruble, 1983; Ruble, Feldman, & Boggiano, 1976; Ruble & Frey, 1982; Ruble, Parsons, & Ross, 1976) discuss the development of social comparison in young children as a multistep process. The earliest comparisons primarily involve similarities and differences but then shift to a concern for how to perform a task. For example, Feldman and Ruble (1977) found that first graders engaged in much peer comparison during an achievement task but primarily did so to obtain correct answers. Providing comparative information to very young children (preschoolers and children in primary grades) may increase their motivation more for practical reasons--such as to obtain correct answers--than for acquiring information about personal capabilities (Ruble, Feldman, & Boggiano, 1976). Young children do not necessarily become more motivated by knowing that others are performing better. At the same time, telling young children who fail at a task that most other children also do poorly may not alleviate the negative impact of failure (Ruble, Parsons, & Ross, 1976). As mentioned above, young children seem more responsive to direct evaluation of their capabilities (e.g.,

"You're good at this," and "You could do better") than to comparisons with peers (Spear & Armstrong, 1978). After first grade, interest increases in determining how well peers are doing, and comparative information begins to be used more often to help form self-evaluations of performance capabilities.

Social Comparison and Achievement Outcomes

A useful framework for viewing how social comparison affects achievement outcomes is Bandura's theory of self-efficacy (Bandura, 1977-a, 1981, 1982). According to this theory, different procedures change behavior in part through the common mechanism of strengthening perceived self-efficacy. Self-efficacy (i.e., self-perceptions of performance capabilities) refers to personal judgments of how well one can perform behaviors in specific situations that may contain novel, unpredictable, and possibly stressful elements.

Self-efficacy is hypothesized to influence choice of activities (Bandura, 1977-a). Children who hold a low sense of efficacy for accomplishing a task may attempt to avoid it, whereas those who feel more efficacious should participate more eagerly. Self-efficacy also is hypothesized to affect effort expenditure and task persistence (Bandura, 1977-a). Especially when facing obstacles, children who hold a higher sense of efficacy should work harder and persist longer than those who doubt their capabilities (Bandura & Schunk, 1981; Schunk, in press-b). Individuals learn about their capabilities through their own performances, socially comparative vicarious (observational) means, verbal persuasion, and physiological indexes.

In this conception, social comparison of one's performance with the performances of others constitutes a vicarious source of efficacy informa-

tion (Bandura, 1981). There is evidence attesting to the idea that similar others, rather than those much higher or lower in ability, offer the best information for judging one's own performance capabilities (Bandura, 1981; Suls & Miller, 1977). Because it is not until around age 9 that children begin to form a distinct conception of ability (Nicholls, 1978; Suls & Sanders, 1982), once children begin to engage in social comparison for the purpose of self-evaluation, perceived similarity is based more on actual performances than on underlying constructs such as ability. Thus, telling children that similar others can perform a task (e.g., "See how well Shawn is doing") can promote a sense of efficacy for succeeding because children are likely to believe that if other similar children perform at a certain level they can as well. In contrast, comparing oneself with those either much better or worse offers less information about what one can do. It should be noted that, with development, perceived similarity may be most influential for behaviors that reflect underlying constructs such as ability, whereas universal behaviors (e.g., obeying traffic lights) may be promoted better through observation of experts (Davidson & Smith, 1982).

The hypothesized effects of social comparison in achievement contexts are portrayed in Figure 1. When children perceive a negative discrepancy between their present level of performance and what similar others do, they are apt to believe that they can perform as well and become motivated to attain the comparative level (Masters, 1971). As children work at the task, motivation and self-evaluation exert reciprocal effects. Motivation leads to progress toward the comparative level. When children observe that they are making progress, their initial capability self-evaluations are likely to be substantiated (Schunk, 1983-a, in press-b). Enhanced self-evaluations help to sustain motivation. Collectively, these two processes

can lead to a higher level of skillful performance over time. It might then be expected that this enhanced performance level would serve as the basis for future social comparison. These motivational and informational effects of social comparison are explored in greater depth below. (Goal setting, which is hypothesized to operate in similar fashion, will be covered later in this discussion.)

Insert Figure 1 about here.

To illustrate, it is not unusual for young elementary school children to experience some anxiety and to doubt their capabilities to execute gymnastic movements such as cartwheels or somersaults. Such children may benefit from observing peers perform these exercises. Observation of peers may motivate children to try the exercises themselves and convey that children can learn the exercises. Then, as children actually perform cartwheels and somersaults, they ought to notice that they are improving and not injuring themselves. Such observations consequently help to sustain motivation. With skill improvement, children are apt to engage in further social comparison, such as that undertaken to determine how smooth their movements are as compared with those of others.

Motivational effects. There is research evidence indicating that social comparative information exerts strong motivational effects on children's performances by the fourth grade (Schunk, 1983-a; Spear & Armstrong, 1978). Feldman and Ruble (1977) also found an enhanced level of motivation among second graders compared with younger children. Within this context, it might be asked what factors influence the likelihood and effectiveness of social comparison.

One theoretically relevant factor is an objective standard for evaluation (Festinger, 1954); there ought to be greater interest in social comparison in the absence of an objective criterion against which to evaluate one's performance. Among third graders, Pepitone (1972) found that the presence of a correct finished product (a jigsaw puzzle) reduced tendencies toward social comparison; however, among first and fourth graders, Feldman and Ruble (1977) obtained only a very weak effect on interest in social comparison due to the absence of an objective performance criterion (a time standard for the best performance). One possible interpretation of the latter finding is that even when an objective performance criterion is present children still may be interested in social comparison to assess how their performance capabilities compare with those of others.

A second potentially important factor is the presence of competition. Social comparison theoretically should become more prevalent in a competitive setting. Although there are some exceptions, research studies generally have found increased comparative behaviors in more competitive as opposed to less competitive or noncompetitive settings (Feldman & Ruble, 1977; Mithaug, 1973; Pepitone, 1972; Ruble, Feldman, & Boggiano, 1976). For example, Feldman and Ruble (1977) found increased interest in social comparison when children knew that only the first child to finish puzzles would win a prize. In short, competition appears to increase children's motivation to compare themselves with others.

The effects of sex differences also have been explored. Ruble, Feldman, and Boggiano (1976) obtained evidence that, among children in kindergarten through second grade, boys showed greater interest in comparative information than did girls. Spear and Armstrong (1978) found

that comparative information exerted motivational effects on boys' performances on easier tasks but not on difficult ones; no differences due to type of task were obtained for girls. Ruble, Feldman, and Boggiano (1976) suggest that among young children there may be more external (societal) pressure placed on boys than on girls to evaluate themselves relative to others.

Informational effects. To the extent that children adopt comparative information as a standard of performance, they ought to evaluate their capabilities higher as a result of working at a task and observing their progress toward the standard. Although research supports this proposition, the effects of comparative information on capability self-evaluations are not as strong as might be expected. For example, Schunk (1983-a) provided comparative information on the typical progress of other similar children to fourth graders during a division competency development program. The comparative information enhanced task motivation in that children demonstrated a high rate of problem solving during the training program. Although comparative information also promoted children's self-efficacy for solving division problems, this effect was not particularly strong. Ruble, Parsons, and Ross (1976) worked with children ranging in age from 4 to 11 years on a matching familiar figures task (Zelniker, Jeffrey, Ault, & Parsons, 1972). The results showed that children's affective reactions toward the task and self-evaluations of ability were influenced more by task outcome information (whether children succeeded or failed) than by comparative information indicating the difficulty of the task (easy or hard). Schunk (1983-b) found that directly telling fourth graders that they could work a given number of problems during a division training program (e.g., "You can work 25 problems") enhanced

the children's sense of self-efficacy more than providing comparative information indicating that other similar children worked that many problems.

Ruble, Parsons, and Ross (1976) suggest that providing comparative information leads to high interest in self-evaluation; that is, children are apt to focus on how well they are doing relative to others. Results of the Schunk (1983-a, 1983-b) studies suggest that in the absence of comparative information children are likely to focus more on how their present performance attainments surpass their prior accomplishments, a process that ought to greatly enhance self-efficacy.

What social comparative information conveys to children about their level of competence is apt to depend on how the information is structured. When people compare themselves to similar others on ability-related attributes, they expect to perform at an equivalent level (Goethals & Darley, 1977). Even if their performance matches the comparative standard, they may not feel overly efficacious if they realize that their performance was only average (Schunk, 1983-a). For most children, "similar others" are peers of average ability. Comparative information indicating average achievement motivates children to reach the standard but may not promote a strong sense of personal competence.

At the same time, comparative information indicating average accomplishments conveys the clearest information to children about their own capabilities. Information indicating an easy task (e.g., "All children can do this") conveys ambiguous information about one's capabilities (Goethals & Darley, 1977) because children who match the standard might nonetheless wonder how good they really are. Conversely, comparative information indicating a difficult task ("Few children can do this") could stifle motivation because many children will be reluctant to attempt the

impossible. In this case, if children's subsequent performances were worse than the comparative level it would still be unclear how capable they really were. Of course, should children attain a high comparative standard, they likely would feel highly capable, although such a performance is unlikely.

The following situation may serve as an illustration: Children are assigned 20 spelling words on Monday, study each day, and are tested on Thursday. Those who score 100% receive free time during Friday's spelling period, whereas others are retested on Friday. Children would learn little about their spelling capabilities if nearly everyone scored 100% on the Thursday tests because they likely would believe that the words were easy. On the other hand, few children would be motivated to put forth extra effort to study during the week if hardly anyone scored 100% on the Thursday tests. If about half of the class demonstrated mastery on Thursdays, children could derive the clearest information about their own capabilities because they readily could determine their relative standing (i.e., top or bottom half).

In short, comparative information indicating average performance is motivating for most children but may not constitute the most effective means of enhancing capability self-evaluations. Again, directly informing children about their capabilities ("You can do this") may motivate them equally well but better enhance self-efficacy (Schunk, 1983-a). Once children work at a task, their actual performance successes and failures become more important influences on self-evaluations than do peer comparisons (Ruble, Parsons, & Ross, 1976).

It should be noted that how information about similar others affects self-evaluations may depend somewhat on the ability level of the child. It

would seem that providing high achievers information about other high achievers could promote a high sense of self-efficacy if children were able to perform at the comparative level.

Reference Groups

In school, teachers often provide young children with comparative information ("See how well Kevin is working"), yet children also acquire much on their own. An interesting question concerns the others with whom children naturally choose to compare themselves. One suggestion is that children exercise considerable freedom in selecting comparative referents and may choose different referents for different types of comparisons (Rosenberg, 1968). To test this idea, Strang, Smith, and Rogers (1978) assessed the self-concepts of two groups of academically handicapped children ranging in age from 6 to 11 years: those who were mainstreamed for half a day and those who were not mainstreamed. The results showed that mainstreaming promoted children's self-concepts as assessed by the Piers-Harris Children's Self-Concept Scale (Piers, 1969). It is possible that the half-day mainstreaming was viewed by children as a sign of academic progress. To the extent that they continued to utilize children in their special class, as opposed to children in the regular class, as a basis for making academic self-evaluations, they likely felt more competent. The study thus shows that grouping practices can affect children's self-evaluations. Given the prevalence of grouping practices in elementary schools, this issue deserves further investigation. Such research ought to address how grouping affects nonhandicapped children as well.

GOAL SETTING

Goal setting involves comparing one's present level of performance with some desired standard (Bandura, 1977-b). When individuals make self-satisfaction contingent on attaining the standard, they are likely to sustain their efforts until they achieve their goals (Bandura, 1977-b).

A goal reflects one's purpose or intent and generally refers to quantity, quality, or rate of performance; however, goals also may be cast as deadlines, quotas, or budgets (Locke, Shaw, Saari, & Latham, 1981). People can set their own goals, or goals can be established for them by others such as teachers, parents, and supervisors. Quite often, social comparative information indicating a given level of performance becomes adopted as a goal, as when people strive to perform a task as well or better than others.

As shown in Figure 1, the effects of goal setting bear much theoretical similarity to those of social comparison. Goal setting can motivate behavior and inform people about their capabilities. When children are given or select a goal, they may experience a sense of self-efficacy for attaining it. As children pursue their goals, they are apt to engage in appropriate activities, attend to instruction, persist at the task, and expend effort toward goal accomplishment. These motivational effects result in more on-task behavior (Schunk & Gaa, 1981). Children's initial sense of self-efficacy should be substantiated as they work at the task and observe their progress toward the goal because the perception of progress conveys that they are becoming more capable. In turn, heightened capability self-evaluations help sustain task motivation. Collectively, enhanced motivation and perceived competence lead to a higher level of skill develop-

ment over time (see Figure 1). New goals may be adopted when children master their present ones.

To illustrate this process, in many elementary schools supplementary readers that parallel the vocabulary of basal readers are assigned to children to read at home. If a teacher assigns his or her third graders a goal of finishing three supplementary readers during the first 6-week grading period, the goal is apt to motivate children and result in an initial sense of competence for succeeding. This sense of competence is validated as children notice their progress toward the goal, and such self-perceptions help to sustain motivation. Collectively, higher self-evaluations and motivation could lead children to accomplish the goal in less than 6 weeks and to request a higher goal (e.g., four books) during the next grading period. It also should be noted that children could gain comparative capability information if the teacher maintains a progress chart allowing them to assess their progress relative to that of others.

This view of goal setting incorporates some elements of developmental perspectives on intrinsic motivation in children. According to Piaget, for example, children are intrinsically motivated to resolve the disequilibrium that results when new experiences conflict with established cognitive structures (Flavell, 1963). Such disequilibrium motivates children to bring experiences and structures into harmony. In a similar vein, White (1959) has suggested that behaviors such as curiosity, exploration, and mastery reflect a general effectance motive that leads children to attempt to deal competently with their environment.

Both of these positions view goal-oriented behavior as basically undifferentiated. Such generalized motivation may explain mastery attempts in infants and toddlers, but an undifferentiated motive cannot account for the

fact that, with development, children become more selective in the goals they pursue. Some children seek mastery in mathematics, others in drawing, and still others in baseball. A general mastery orientation would imply that children, as well as adults, would continually strive for competence in all aspects of their environment (Bandura, 1977-b). Thus, a general motive contradicts everyday observations and lacks predictive power. Educational researchers and practitioners seek knowledge of how to enhance children's goal-directed behaviors. As Harter (1981) suggests, we need to specify the components (structure and content) of the child's motive system and to establish how these components change with development. Readers interested in children's mastery motivation should consult Harter (1981, 1982).

Goals by themselves do not automatically enhance achievement outcomes. Rather, certain properties of goals, when internalized as conscious intentions, serve as incentives for action (Latham & Yukl, 1975; Locke, 1968). In this regard, the effects of goal specificity, difficulty level, and proximity are particularly important.

Goal Specificity

Goals that incorporate specific standards of performance are more likely to increase motivation and to activate self-evaluative reactions than are general goals, such as "Do your best" (Locke, 1968; Locke et al., 1981). Specific goals boost task performance through their greater specification of the amount of effort required for success and through the self satisfaction anticipated when accomplished (Bandura, 1977-b). Specific goals also can promote self-evaluations of capabilities because progress toward an explicit goal is easy to gauge.

Much research attests to the effectiveness of specific goals in raising task performance (Bryan & Locke, 1967-a; Locke, 1967; Locke & Bryan, 1966-a, 1966-b, 1967). This result has been demonstrated among adults on a variety of cognitive and motor tasks. Because adults can more easily comprehend goal instructions, one might question whether these findings are generalizable to children; however, specific goals have been shown to promote task performance and capability self-evaluations among young children (Bandura & Schunk, 1981; Rosswork, 1977; Schunk, 1983-a, 1983-b).

Goal Difficulty Level

Goal difficulty refers to the level of task proficiency required as assessed against an external standard (Locke et al., 1981). How much effort people expend to attain a goal likely will depend on the level at which it is set. People tend to expend greater effort to attain a more difficult goal than they do when the standard is lower. There is much evidence showing a positive relationship between difficulty level and task performance (Bryan & Locke, 1967-b; Locke & Bryan, 1966-b, 1967; Mento, Cartledge, & Locke, 1980). That difficult goals enhance children's performances and self-evaluations also has been demonstrated. Using sixth graders as subjects, Rosswork (1977) found that goal difficulty increased the rate that students composed sentences using vocabulary words. Schunk (1983-b) gave children (mean age = 10 years) lacking division skills goals for solving a given number of problems during training sessions. Children who received more difficult goals (i.e., more problems) completed significantly more problems than did children given easier goals.

It should be noted that difficulty level and task performance do not bear an unlimited positive relationship to each other. Positive effects due

to goal difficulty depend on the individual's having sufficient ability to reach the goal. Difficult goals do not enhance performance in the absence of requisite ability (Locke et al., 1981). When people believe that they do not possess the ability to attain a goal, they are apt to hold low expectations for success, a situation that does not foster goal acceptance (Locke et al., 1981; Mento et al., 1980). The effectiveness of any goal derives from making a commitment to attain it (Locke, 1968).

Goal Proximity

Goals also can be distinguished by how far they project into the future. Proximal goals, which are close at hand and can be achieved rather quickly, result in greater motivation directed toward attainment than more temporally distant goals (Bandura, 1977-b; Bandura & Simon, 1977). From a developmental perspective, proximal goals ought to be especially influential with young children, who have short time frames of reference and who may not be fully capable of representing distant outcomes in thought (Schunk & Gaa, 1981). Proximal goals seem to fit in well with normal lesson planning. Elementary classrooms are activity oriented: Teachers plan activities around blocks of time. Especially with young children, these activities tend to be short term.

Pursuing proximal goals also conveys reliable information about one's capabilities. As children observe their progress toward a proximal goal, they are apt to develop a higher sense of self-efficacy; higher self-efficacy helps to sustain task motivation (Schunk, in press-b). Because progress toward a distal goal is more difficult to gauge, children receive less-clear information about their capabilities, even if they perform quite well.

Comparing the effects of proximal goals to those of more distant goals is difficult because, when given a long term objective, adults tend to subdivide it into a series of short range goals. Such subdivision does not necessarily occur among young children, whose developmental status may limit their ability to fractionate distant goals.

To test the idea that proximal goals constitute an important contextual influence on children's achievement outcomes, third-grade children engaged in a competency development program for subtraction (Bandura & Schunk, 1981). Children were given a written packet consisting of seven sets of materials and were told they would work on the materials over seven sessions. Some children pursued a proximal goal of completing one set each session, a second group pursued a distal goal of completing the entire packet by the end of the last session, and a third group was given only a general goal of working productively. The proximal and distal goals represented the same amount of work; however, because children could not yet divide, the distal subjects were not able to subdivide their goal.

Consistent with predictions, proximal goals heightened task motivation; subjects given these goals demonstrated the highest rate of problem solving during training. Proximal goals also led to the highest self-efficacy and subtraction skill. In contrast, the distal goal resulted in no benefits over those obtained from the general goal.

Gaa (1973, 1979) investigated the effects of proximal goals in the context of classroom goal-setting conferences. In one study (Gaa, 1973), first and second graders were assigned to one of three conditions: conferences with goal setting, conferences without goal setting, or no conferences. All children received the same in-class reading instruction.

Children in the goal-conference condition met with the experimenter once a week for 4 weeks in sessions where they received a list of reading skills and selected those that they would attempt to accomplish the following week. They also received feedback on their previous week's goal accomplishments. Children who participated in conferences without setting goals met with the experimenter for the same amount of time but received only general information about material covered previously and about what would be covered the following week. During the last week of training, all subjects set performance goals to assess the effects of treatments on the goal-setting process.

The results showed that goal setting exerted both motivational and informational effects. Compared with children in the other two groups, children who participated in goal-setting conferences attained a higher level of reading achievement. During the last week of training, they also set fewer goals and showed a smaller discrepancy between goals set and mastered. In short, participation in proximal goal setting resulted in more accurate perceptions of capabilities.

This latter finding has implications for the classroom. Being able to estimate one's capabilities accurately is important. When children who overestimate their capabilities attempt tasks that are too difficult, the resulting failures could prove demoralizing. Children who underestimate what they can do may shun tasks within their means and thereby preclude opportunities for skill development (Schunk, in press-b). Teachers initially may have to assist children in setting realistic performance goals. At the same time, teachers need to insure that children receive clear feedback on progress toward their goal attainment if beneficial effects of goal setting on children's self-appraisals are to be obtained.

Influences on Goal Effectiveness

In addition to goal properties, other factors influence how goals affect children's achievement outcomes.

Feedback. Self-evaluation of capabilities requires both a performance standard and knowledge of one's own performance (Bandura & Cervone, 1983). Simply pursuing a goal without knowing how well one is doing does not boost task performance (Locke, 1968); individuals gain little information about their capabilities because they have no way to gauge their progress.

Young children can acquire performance feedback on their own with certain types of tasks, such as when their goal is to complete a given number of workbook pages. It is probably fair to say that for many tasks children cannot adequately assess how well they are doing. As mentioned above, teachers may need to provide children with explicit feedback on their progress toward their goals if goals are to foster achievement outcomes.

Rewards. That rewards are powerful motivators of behavior is well known (Bandura, 1977-b; Lepper & Greene, 1978). With respect to goal setting, there is evidence that offering rewards can strengthen goal commitment (Locke et al., 1981), a finding that suggests combining rewards with goals might exert especially beneficial effects on children's achievement outcomes. This combination often is found in schools, as when children work at a task and accrue points needed for extra free time.

Working with middle-school students during a 9-week English unit, Slavin (1980) evaluated the effects on student achievement of an evaluation-reward system in which students earned points based on how

much their weekly quiz scores, as adjusted for previous quiz scores, exceeded their pretest scores. Compared with children who received the same instruction but no reward points or goal of exceeding their previous scores, the experimental subjects demonstrated greater skill development. Rosswork (1977) assigned sixth graders goals on a writing task and offered students different levels of reward. The results showed that difficult goals enhanced performance across all reward conditions but that performance did not vary as a function of different rewards.

A recent study assessed the effects of rewards and goals during a division skill-development program with fourth graders who lacked division skills (Schunk, in press-a). Some children (rewards only) earned points based on the number of problems they completed during training, which they later exchanged for tangible rewards (e.g., magic markers, erasable pens, stickers). Others (goals only) pursued proximal performance goals of completing a given number of problems each training session. Children in a third condition (rewards plus goals) received both rewards and goals, and those in a fourth group (training control) were given the division training but received neither rewards nor goals. The results showed that rewards only, goals only, and rewards plus goals enhanced motivation equally well; in these groups, children solved more problems during training than did the control subjects. Combining rewards with goals led to the highest self-efficacy and division skill as measured on the posttest. The rewards-only and goals-only conditions did not differ on these measures, but each group outperformed the control condition. Regardless of condition, children who judged self-efficacy higher subsequently demonstrated higher division skill.

On a measure of expectancy of goal attainment collected at the beginning of training, children who received rewards plus goals judged themselves more certain of attaining their goals than goals-only children. This result suggests that combining rewards with goals can strengthen goal commitment, which in turn ought to promote self-efficacy and skill. The implication here is that teachers who normally offer children tangible rewards might be well advised to link them to specific performance goals. Teachers who wish to avoid using tangible rewards may need to provide children with explicit information indicating that goals are attainable. Such information seems most important during the early stages of learning a particular skill, when children lack both task experience and knowledge of what they are capable of doing.

The preceding discussion is not intended as a recommendation that teachers dispense tangible rewards to children for their goal progress. There is evidence that such rewards can decrease task interest when children are given tangible rewards for merely working at a task that they otherwise enjoy (Deci, 1975; Lepper & Greene, 1978). Rewards are apt to exert beneficial effects on children's motivation, self-efficacy, and skills when they are delivered commensurate with progress, rather than simply for task participation (Bandura, 1977-b; Schunk, in press-b). Of course, there are other means of conveying progress to children--for example, with charts, social rewards such as praise (e.g., "You're doing well"), and verbal comparisons of present with prior performance (e.g., "You're doing much better than before").

Ability to set realistic goals. To enhance motivation and self-efficacy, goals need to be set at challenging but attainable levels (Bandura, 1977-b). When children are allowed input into the selection of

goals, they might be unrealistic concerning what they can accomplish given the time allotted, the difficulty of the task, or the skills required to succeed (Schunk & Gaa, 1981). Children with learning disabilities especially may be prone to unrealistic goal setting (Tollefson, Tracy, Johnsen, Buenning, & Farmer, 1982). Children initially may require training by teachers on how to set challenging but reasonable goals (Sagotsky, Patterson, & Lepper, 1978). For example, through the use of goal-setting conferences (Gaa, 1973, 1979), teachers and students can mutually agree on both long and short term goals. Frequent conferences would allow teachers to apprise students of their goal progress, and, in turn, goals could be modified as necessary. The focus of the first few conferences could be more on helping students to become aware of what they realistically can accomplish than on evaluation of work they produce.

Another way of teaching goal-setting strategies is through modeling. Modeling represents a vicarious (observational) means of learning and can motivate children to perform in a fashion similar to the model (Bandura, 1981). In a recent study, some third-grade children observed a peer model play a game and choose either easy or difficult goals, whereas other children did not observe a model (Sagotsky & Lepper, 1982). Immediately afterward, subjects played the game themselves. Children who had observed a model choosing difficult goals chose more difficult goals than did children who viewed a model choosing easier goals or children not exposed to a model. Further, goal-choice preferences generalized to a spelling task 3 weeks later. It should be noted that observing peer models conveys social comparative information, which in this study influenced both immediate and delayed task performance.

Participation in goal setting. Intuitively, participation in goal setting seems desirable, but research is inconclusive on whether self-set goals promote performance better than assigned goals (Locke et al., 1981). One potential benefit of self-set goals is that they may foster goal commitment better than assigned goals, and commitment is necessary if goals are to enhance performance outcomes (Locke et al., 1981).

A recent experiment tested this hypothesis (Schunk, 1983-c). Subjects were sixth graders who previously had been classified as learning disabled in mathematics. Children received subtraction training that included instruction and practice opportunities over several sessions. Some children set proximal performance goals (i.e., number of pages of problems to complete) each session, while others had comparable goals assigned to them. Children in a third condition received the training but no goals. To mitigate potentially unrealistic goal setting, children were given feedback at the end of each session on how many pages they completed, and this number was compared with their goal. Although the self-set and assigned-goals groups completed more problems during training than the no-goals group, the self-set group demonstrated the highest self-efficacy and skill on the posttest. Participation in goal setting also led to a higher initial expectancy of goal attainment as compared with the assignment of goals.

Goal attainment information. Goals will not promote achievement outcomes if children are not committed to attaining them. Children are not likely to commit themselves to a goal if they perceive it to be overly difficult. This situation becomes a real possibility in skill development contexts, where performance goals initially are beyond children's skills but as a result of receiving instruction and practice opportunities children

acquire the needed skills. In such instances, providing information indicating that the goal is attainable may foster motivation, skillful performance, and capability self-evaluations.

This idea was explored in a recent study (Schunk, 1983-a). Fourth-grade children who lacked division skills received instruction in division and practice opportunities over two sessions. Half of the children worked under conditions involving a goal of completing a given number of problems each session, where the goal was of intermediate difficulty. The other half did not receive goals. Within each of these conditions, half of the subjects received social comparative information indicating the average number of problems solved by other similar children, whereas the other half did not receive comparative information. The goals and comparative information indicated the same number of problems.

Combining goals with comparative information yielded the greatest benefits. Children in this group worked more problems during training--a measure of motivation--than did children who received only goals or those who were given neither goals nor comparative information. Combined-treatment children also demonstrated higher division skill than did the other conditions and higher self-efficacy when compared with children receiving only comparative information and those given neither goals nor comparative information.

Division is a difficult subject to master, and it is likely that children given goals viewed them as difficult. It was felt that combining goals with comparative information would convey that the goals were attainable. Although this combination led to higher motivation and skill development than did goals alone, the latter was equally effective in promoting self-efficacy. Goals-only children may have been overly swayed by their modest training successes, and it even is possible that they mistakenly

assumed that goal attainment was synonymous with task mastery, an assumption that would have inflated self-efficacy.

A follow-up study explored the effects of different levels of goal difficulty and types of attainment information (Schunk, 1983-b). During a division skill development program with fourth graders, children pursued goals of completing a given number of problems each session. Half of the children received difficult but attainable goals, whereas the other half were given easier goals. Within each of these conditions, half of the subjects received comparative information indicating that other similar children were able to complete that many problems. The other half were told directly that they could attain the goal (i.e., "You can work 25 problems") but received no comparative information. Direct attainment information is a persuasive source of efficacy information because it conveys to children that they are capable of performing well and attaining the goal.

As expected, difficult goals were highly motivating and enhanced children's rate of problem solving during training. Children given difficult goals and direct attainment information judged self-efficacy higher than did children in both conditions receiving comparative information. In addition, they exhibited higher division skills than did subjects receiving the combination of easier goals and direct information. Regardless of treatment, higher self-efficacy was associated with greater subsequent skillful performance.

This study shows that the motivational effects of difficult goals did not automatically translate into high self-efficacy and skill-test performance. Children given difficult goals and comparative information knew that other similar children could attain the goals; thus, they would have

had no reason to feel overly competent. In contrast, the direct attainment information conveyed nothing about other children's accomplishments. Such information can foster goal commitment and lead children to focus on their progress, in turn promoting strong perceptions of capabilities (Schunk, in press-b). These results suggest that, when tasks may appear difficult to children, direct attainment information might exert more beneficial effects on achievement outcomes than would comparative information. Once children work at the task, how well they do will affect their task motivation and self-evaluations.

SUMMARY

Social comparison and goal setting are viewed as important contextual influences on young children's task motivation, capability self-evaluations, and skillful performances. Both processes provide a performance standard against which children can compare their present performance levels. Children may experience an initial sense of self-efficacy for attaining the standard, and this perception can motivate them to expend effort at the task and persevere. As children observe their task progress, their initial capability self-perceptions are substantiated. These self-perceptions then help to sustain motivation. Collectively, enhanced motivation and self-evaluation lead to a higher level of skillful performance. Once performance matches the goal or socially comparative level, children may engage in further goal setting or social comparison.

Young children's social comparisons with peers focus on practical concerns such as similarities and differences, equitable shares of rewards, and securing correct answers. By the fourth grade, children regularly seek out and use social comparative information to help form self-

evaluations of capabilities. Knowledge about the accomplishments of similar others is especially informative of what one is capable of doing. Although comparative information enhances children's task motivation, it may not exert strong effects on their capability self-perceptions; children may be more strongly influenced by direct teacher evaluations of their capabilities and by their actual task performances.

The effects of goals depend on their properties: specificity, proximity, and difficulty level. Proximal goals are especially influential with young children, who may not be fully capable of representing distant outcomes in thought. Goals will not promote performance in the absence of goal commitment. Ways of fostering commitment include providing attainment information (direct or comparative), offering rewards for goal attainment, and, possibly, allowing children to set their own goals. Unrealistic goal setting may be a problem with young children, who may not be completely aware of the task demands or the level of competence required to attain the goal. Teachers can help to foster realistic goal setting by initially assisting children in setting goals, giving clear performance feedback, and providing peer models.

FUTURE DIRECTIONS

This section presents suggestions for future research. Results of these endeavors would not only expand our knowledge of social comparison and goal-setting processes but also have important implications for educational practitioners.

Integration of Capability Information

An important research issue concerns how children cognitively process different pieces of information in forming and modifying self-evaluations of their capabilities to perform given tasks. Within this context, research

also ought to address how cognitive processing changes with development. Little is known about how children combine capability information from various sources (Bandura, 1981). In school, children routinely acquire capability information in several ways. For example, as children solve arithmetic problems they gain capability information through their own work. Specifically, children's self-perceptions ought to differ depending on whether they do well or poorly. While working at the task, children also may observe one another. Whether similar others do well or poorly conveys information to children about their own capabilities. Further, teachers periodically monitor children's seatwork and give verbal feedback (e.g., "You're doing well," "You can do this," or "You could do better"). The information from these three sources may not be consistent. For example, a child may do poorly but be told "You can do this" and observe peers perform well. Questions that research might address are, How do children resolve such discrepancies? Do some sources "count" more heavily than others? and, Is there a developmental pattern in the weights that children give to different sources?

The practical implications of such research are important for teachers, who need to know how to best enhance children's motivation and self-evaluations of their capabilities. In the example above, a teacher has several options available to use alone or in combination with one another. In particular, the teacher may (a) work individually with the child until the child experiences success, (b) point out similar children who are performing well (e.g., "See how well Gavin and Scott are doing?"), or (c) provide persuasive attainment information (e.g., "I know you can do well on this"). Because (and to reiterate an earlier point) instructional procedures alone cannot fully explain children's achievement behaviors

(Schunk, in press-b), it is important for teachers to know which strategies likely will prove effective given the child's developmental status.

Peer Models and Self-Evaluation

Peer models can influence children's goal choices (Sagotsky & Lepper, 1982), and there is a vast body of literature demonstrating that children can learn new skills from models (Bandura, 1977-b). An important issue still to be addressed is how peer models influence observers' capability self-perceptions. A situation is possible in which children who lack a particular skill observe a peer model successfully learn the skill. Research should explore whether this type of social comparative information promotes the observer's sense of self-efficacy for being able to learn the skill.

Research on peer models would have important implications for classroom practice. Although children can learn skills from observing teachers model them, children do not view teachers as similar in competence; therefore, children's self-evaluations of their capabilities may not be enhanced much through observing teachers. If research shows that peer models exert stronger effects on children's self-evaluations, then teachers would be advised to incorporate child models into their instructional planning. In arithmetic, for example, once a teacher has explained a particular operation a child could model its application to some problems. In this regard, research should also explore how peer tutoring and cooperative learning groups affect children's self-evaluations (Slavin, 1983; Webb, 1982).

Classroom Research

Altnough most of the research summarized in this discussion has utilized school tasks (e.g., arithmetic and writing), many of these studies were not conducted in classrooms. As a consequence, the ways that social comparison and goal setting can be incorporated effectively into regular instructional practices have not been thoroughly explored. As has been suggested, to adequately investigate the interrelationship among learning, motivation, and self-evaluations it seems necessary to conduct research using existing instructional vehicles such as teachers, computers, and textbooks (Corno & Mandinach, 1983). By implication, more research needs to be conducted in classrooms.

A second recommendation is to work directly with classroom teachers in studying the effects of social comparison and goal setting. This type of research strategy would involve training teachers to administer social comparison and goal-setting treatments and to assess their effects. Once trained, these teachers can become active collaborators with researchers. In short, although a basic understanding of the social comparison and goal setting processes among children exists, we need to better explore the operation of these processes in classrooms to determine how they can be systematically employed to enhance children's task mastery and sense of personal competence.

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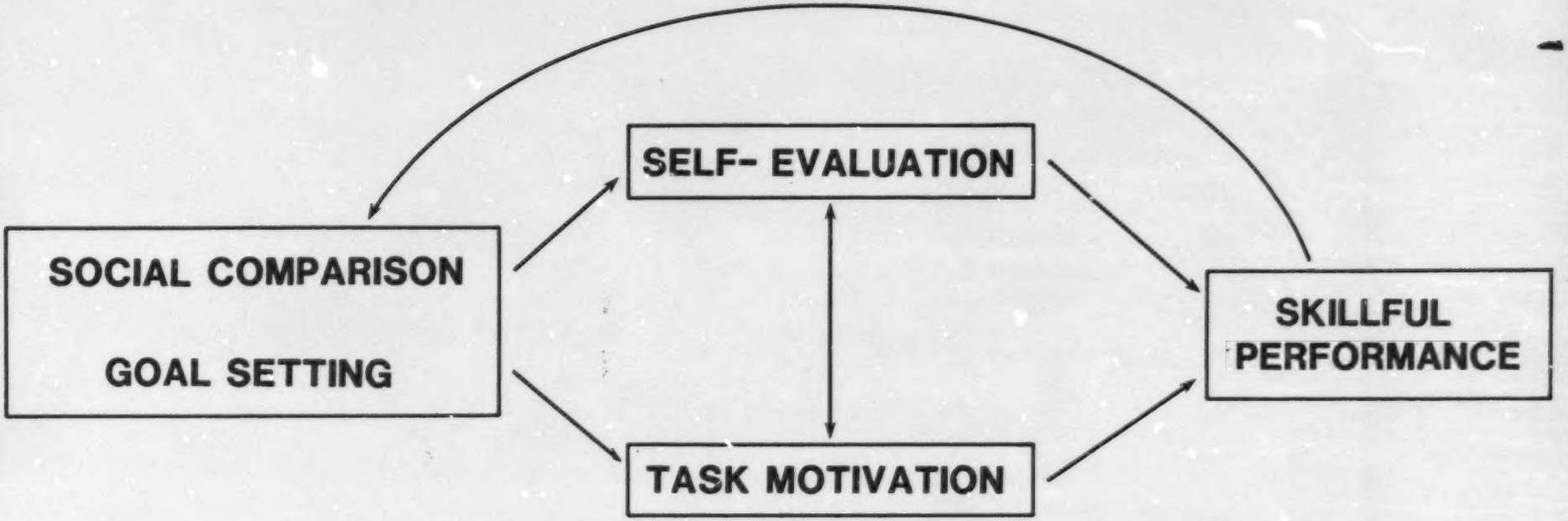
FIGURE CAPTION

Figure 1. Hypothesized effects of social comparison and goal setting in achievement contexts.


SELF- EVALUATION
SOCIAL COMPARISON
GOAL SETTING
SKILLFUL
PERFORMANCE
TASK MOTIVATION